

15:30 - 16:30

Poster Session B | Entrance East  
protective and tribological coatings; optical coatings; biomedical and biological applications

POB004

**Hot Filament CVD Diamond Coating Technology for Cutting Tool Applications**

Marvin Wegh, Michael Woda, Werner Puetz, Martin Frank, Christoph Schiffers, Werner Koelker, Oliver Lemmer, Toni Leyendecker  
CemeCon AG, Wuersele, Germany

POB005

**Room and high-temperature tribological performance of Diamond Carbon coatings produced by HiPIMS in Ar-Ne discharges**

Alireza Vahidi, Filipe Fernandes, Ricardo Serra, Joao Carlos Oliveira  
SEG-CEMMPRE, University of Coimbra, Coimbra, Portugal

POB007

**Controlling structure and morphology of WC based thin films**

Thomas Glechner<sup>1</sup>, Alexander Kirnbauer<sup>2</sup>, Christian Tomastik<sup>3</sup>, Ewald Badisch<sup>3</sup>, Peter Polcik<sup>4</sup>, Paul Heinz Mayrhofer<sup>2</sup>, Helmut Riedl<sup>2</sup>

<sup>1</sup> TU WIEN, Wien, Austria, <sup>2</sup> Institute of Materials Science, TU Wien, Wien, Austria, <sup>3</sup> AC2T research GmbH, Wiener Neustadt, Austria, <sup>4</sup> Plansee Composite Materials GmbH, Lechbruck am See, Germany

POB008

**Analysis of CVD diamond coatings on tungsten carbide tools and their ability to machine ceramic materials**

Jakob Grau<sup>1</sup>, Hadwig Sternschulte<sup>1</sup>, Sven Ulrich<sup>2</sup>, Björn Backes-Eckert<sup>1</sup>, Achim Rösiger<sup>1</sup>, Ralf Goller<sup>1</sup>, Bärbel Krause<sup>3</sup>, Monika Rinke<sup>2</sup>, Doris Steinmüller-Nethl<sup>4</sup>

<sup>1</sup> Hochschule Augsburg, Augsburg, Germany, <sup>2</sup> KIT, Institute for Applied Materials, Eggenstein-Leopoldshafen, Germany, <sup>3</sup> KIT, IPS, Eggenstein-Leopoldshafen, Germany, <sup>4</sup> CarbonCompetence GmbH, Wattens, Austria

POB009

**Boosting the corrosion properties of PVD-TiMgGdN coated mild steels using sophisticated powder metallurgical TiMgGd targets**

Holger Hoche<sup>1</sup>, Thomas Ulrich<sup>1</sup>, Peter Polcik<sup>2</sup>, Matthias Oechsner<sup>1</sup>

<sup>1</sup> MPA-IfW, TU-Darmstadt, Darmstadt, Germany, <sup>2</sup> Plansee Composite Materials GmbH, Lechbruck am See, Germany

POB010

**The Corrosion resistance of Ag and Ag-Au/a-C nanocomposite coatings deposited by dc magnetron sputtering**

Ali Salehizadeh<sup>1</sup>, Ricardo Serra<sup>2</sup>, Isabel Carvalho<sup>3</sup>, Sebastian Calderon<sup>4</sup>, Sandra Carvalho<sup>3</sup>, Albano Cavaleiro<sup>5</sup>

<sup>1</sup> Mechanical Engineering Department, Coimbra, Portugal, <sup>2</sup> SEG-CEMMPRE, Coimbra, Portugal, Portugal, <sup>3</sup> CFUM-UP, Guimarães, Portugal, <sup>4</sup> INL, Braga, Portugal, <sup>5</sup> SEG-CEMMPRE, Coimbra, Portugal, Portugal

POB011

**PECVD Ceramic Hard Coatings of Various Materials and Different Testing Methods**

Paul Reichle<sup>1</sup>, Georg Umlauf<sup>1</sup>, Jan Hinnerk Henze<sup>1</sup>, Günter E. M. Tovar<sup>2</sup>, Christian Oehr<sup>1</sup>, Jakob Barz<sup>1</sup>

<sup>1</sup> Fraunhofer IGB, Stuttgart, Germany, <sup>2</sup> IGVP Universität Stuttgart, Stuttgart, Germany

Tuesday, September 8, 2020

---

POB012      **Determination of durability and optical properties for Low-E coating ZnTiAlO / Ag / ZnTiAlO**  
Florian Bocchese, Stéphane Lucas, , , , , , ,  
University of Namur, Namur, Belgium

POB014      **Thin Film Sensors for Additively manufactured components**  
Nyvengeteral Cheryl Rohrsen, Daniel Hagedorn, Frank Löffler  
Physikalisch-Technische Bundesanstalt, Braunschweig, Germany

POB015      **Fracture toughness of TiAlN hard coatings with soft metal inclusions**  
Martin Andritschky<sup>1</sup>, Romain Waidelich<sup>2</sup>  
<sup>1</sup> Centro de Física, Universidade do Minho, Minho, Portugal, <sup>2</sup> Inorcoat, Plovdiv, Bulgaria

10:30 - 11:30      **Poster Session C | Entrance East**  
surface modification technologies: Plasma diffusion technologies;  
Plasmatreatment, cleaning and etching; PVD; PECVD

POC001      **Low pressure BCl<sub>3</sub> gas boriding of hot working materials**  
Alexander Nienhaus<sup>1</sup>, Peter Kaestner<sup>2</sup>, Julian Vogtmann<sup>2</sup>, Hanno Paschke<sup>3</sup>, Guenter Braeuer<sup>2</sup>, Stefan Kuhnke<sup>4</sup>, Soeren Mueller<sup>4</sup>, Christian Sternemann<sup>5</sup>, Michael Paulus<sup>5</sup>  
<sup>1</sup> IOT TU Braunschweig, Dortmund, Germany, <sup>2</sup> IOT / TU Braunschweig, Braunschweig, Germany, <sup>3</sup> Fraunhofer IST, Dortmund, Germany, <sup>4</sup> FZS / TU Berlin, Berlin, Germany, <sup>5</sup> DELTA / TU Dortmund, Dortmund, Germany

POC004      **XPS, ATR-FTIR and friction studies on modifications of polydimethylsiloxane after exposure to argon-oxygen plasma and UV radiation at 172 nm, 185 nm and 245 nm**  
Anna Scheglov, Alex Patricio Gabriel, Martin Bellmann, Wolfgang Vioel  
HAWK Hochschule f. angew. Wiss. u. Kunst, Göttingen, Germany

POC006      **Influence of the deposition parameters on the structural evolution and thermo-mechanical properties of HiPIMS sputtered Transition metal carbides coatings**  
Rainer Hahn<sup>1</sup>, Andreas Berer<sup>2</sup>, Thomas Glechner<sup>1</sup>, Jürgen Ramm<sup>3</sup>, Oliver Hunold<sup>3</sup>, Szilárd Kolozsvári<sup>4</sup>, Helmut Riedl<sup>1</sup>  
<sup>1</sup> CDL-SEC, TU Wien, Vienna, Austria, <sup>2</sup> Institute of Materials Science, TU Wien, Vienna, Austria, <sup>3</sup> Oerlikon Surface Solutions AG, Balzers, Liechtenstein, <sup>4</sup> Plansee Composite Materials GmbH, Lechbruck am See, Germany

POC009      **Magnetron Sputtering of suitable sensitive materials for Hall sensors**  
Michal Kohout<sup>1</sup>, Slavomir Entler<sup>2</sup>, Ivan Duran<sup>2</sup>, Jiri Olejnicek<sup>1</sup>, Zdenek Hubicka<sup>1</sup>  
<sup>1</sup> Institute of Physics of CAS, Prague, Czech Republic, <sup>2</sup> Institute of Plasma Physics of CAS, Prague, Czech Republic

POC011      **NEW REACTIVE SPUTTERING PROCESSES WITH BIPOLAR-PULSE-SYSTEMS**  
Holger Rückert<sup>1</sup>, Dieter Wurczinger<sup>2</sup>, Ralf Comtesse<sup>1</sup>  
<sup>1</sup> ADL GmbH, Darmstadt, Germany, <sup>2</sup> Ingenieurbüro Wurczinger Engineering, Bad Vilbel, Germany

- POC012      **Sputtering of TiAl-Monolayers for Highly Planar Micro-Mirror Arrays – Stress Adjustment over Target Lifetime**  
Erik Schumann, Sebastian Döring, Undine Gruve, Stephanie Weller, Christoph Hohle  
Fraunhofer IPMS, Dresden, Germany
- POC013      **Growth of nanocolumnar thin films on patterned substrates at oblique angles**  
Sandra Muñoz-Piña<sup>1</sup>, Aurelio Garcia - Valenzuela<sup>2</sup>, German Alcalá<sup>3</sup>, Rafael Alvarez<sup>2</sup>, Victor Rico<sup>2</sup>, Raul Gago<sup>4</sup>, Luis Vazquez<sup>4</sup>, Jose Cotrino<sup>2</sup>, Agustin R. Gonzalez-Elipe<sup>2</sup>, Alberto Palmero<sup>2</sup>  
<sup>1</sup> Nano4Energy S.L., Madrid, Spain, <sup>2</sup> Inst. Ciencia Materiales Sevilla (CSIC), Sevilla, Spain, <sup>3</sup> Univesidad Complutense Madrid, Madrid, Spain, <sup>4</sup> Inst. Ciencia Materiales Madrid (CSIC), Madrid, Spain
- POC015      **V doped-TiO<sub>2</sub> anatase thin films deposited by Plasma Enhanced Chemical Vapour Deposition at low substrate temperature for photocatalytic applications**  
Benjamin DEY<sup>1</sup>, Simon BULOUE<sup>2</sup>, Thomas GAULAIN<sup>2</sup>, William RAVISY<sup>3</sup>, Mireille RICHARD-PLOUET<sup>3</sup>, Antoine GOULLET<sup>3</sup>, Agnes GRANIER<sup>3</sup>, Patrick CHOQUET<sup>2</sup>  
<sup>1</sup> Luxembourg Institute of Science and, Esch-sur-Alzette, Luxembourg, <sup>2</sup> LIST, Esch-sur-Alzette, Luxembourg, <sup>3</sup> IMN, Nantes, France
- POC018      **Study of non-thermal tetravinylsilane plasma by mass spectrometry**  
Naghme Aboualigaedari, Martin Branecky, Vladimir Cech  
Brno University of Technology, Brno, Czech Republic
- POC019      **The Systematics of Reactive Ion Beam Sputter Deposition of SiO<sub>2</sub> and TiO<sub>2</sub> Thin Films**  
Carsten Bundesmann<sup>1</sup>, Carsten Bundesmann<sup>2</sup>, Thomas Amelal<sup>2</sup>, Jaques Bernstein<sup>2</sup>, Maria Mateev<sup>2</sup>, Lukas Pietzonka<sup>2</sup>, Daniel Spemann<sup>2, 3, 3</sup>  
<sup>1</sup> IOM Leipzig, Leipzig, Germany, <sup>2</sup> Leibniz Institute of Surface Engineering, Leipzig, Germany
- POC020      **Multifunctional coatings with antibiofouling properties**  
Jose Castro<sup>1</sup>, Jose Castro<sup>2</sup>, Isabel Carvalho<sup>3</sup>, Mariana Henriques<sup>4</sup>, Sandra Carvalho<sup>2</sup>  
<sup>1</sup> University of Minho, Guimaraes, Portugal, <sup>2</sup> CFUM-UP, University of Minho, Guimaraes, Portugal, <sup>3</sup> SEG-CEMMPRE, University of Coimbra, Coimbra, Portugal, <sup>4</sup> CEB, University of Minho, Braga, Portugal